

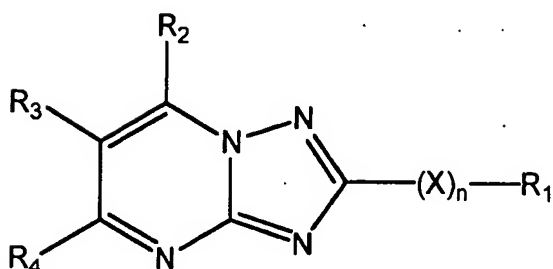
10/8/2885

S/M 2, 259.7
292, 247, 34

[000202] WHAT IS CLAIMED IS:

1. A combination comprising a polypeptide comprising the modulating sequence of the erythropoietin receptor and a non-peptide organic molecule of from 12 to 36 atoms other than hydrogen, from 9 to 20 carbon atoms, and from 4 to 12 of the heteroatoms chalcogen, nitrogen, halogen, and metal ion of Groups I and II of the periodic chart, and of the formula:

(1)



Olson, Lemper

wherein:

X is of from 1 to 7 atoms other than hydrogen ^{or} and is oxygen, sulfur bonded to 0 to 2 oxygen atoms, amino and alkyl substituted amino;
 n is 0 or 1;

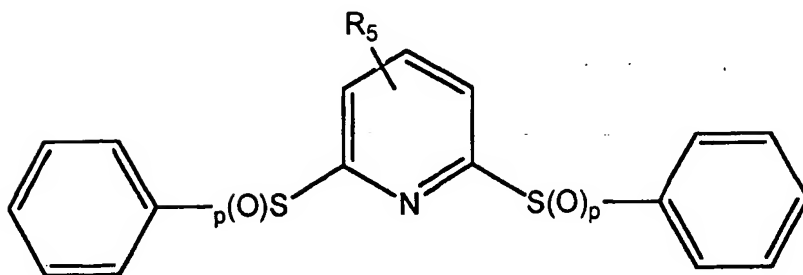
R₁ is hydrogen or an organic group of from 1 to 12 carbon atoms and from 0 to 6 heteroatoms, which are chalcogen, nitrogen, and halogen consisting of an aliphatic group of from 1 to 6 carbon atoms having from 0 to 2 sites of unsaturation, non-oxo-carbonyl and the nitrogen and sulfur derivatives thereof, alicyclic having from 0 to 2 sites of unsaturation, aryl, heterocyclic and combinations thereof, where the cyclic structures may have from 1 to 2 rings;
 R₂ is hydrogen, a heterofunctionality having nitrogen and/or chalcogen bonded to annular carbon, a heterofunctionality having nitrogen and/or chalcogen bonded to

annular carbon to which is substituted with an organic group of from 1 to 10 carbon atoms, aryl, alkaryl, aralkyl and aralkenyl of from 5 to 10 carbon atoms, aroyl of from 6 to 10 carbon atoms, or an organic group bonded through a carbon atom of from 1 to 12 carbon atoms having from 1 to 4, as described above for R_1 ; R_3 is hydrogen or an organic group of from 1 to 10 carbon atoms and from 0 to 4 chalcogen and nitrogen heteroatoms;

R_4 is hydrogen or alkyl and substituted alkyl of from 1 to 6 carbon atoms, where the substituents are oxy, amino and halo;

with the proviso that R_3 and R_4 can be taken together to form a ring with the annular atoms to which they are attached of from 4 to 10 annular atoms and forming from 1 to 2 rings, where the annular atoms are unsubstituted or substituted with halo, alkyl of from 1 to 3 carbon atoms, oxy of from 0 to 3 carbon atoms, thio of from 0 to 3 carbon atoms and amino of from 0 to 4 carbon atoms;

(2)

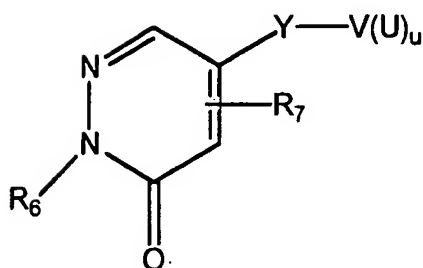


wherein:

p is 0, 1 or 2; and

R_5 is a group having from 1 to 3 atoms other than hydrogen and is oxy, thio, amino, nitro, cyano, and alkyl;

(3)



wherein:

Y is O, $S(O)_m$, wherein m is 0, 1 or 2, amino or CH_2 ;

R_6 is H or alkyl of from 1 – 3 carbon atoms;

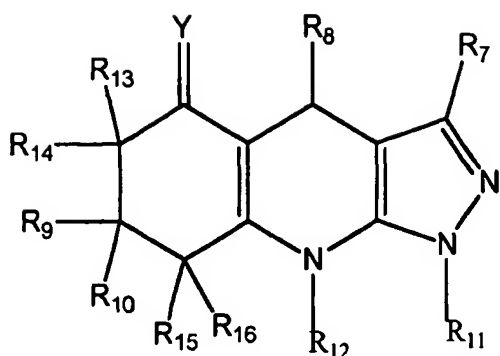
R_7 is hydrogen, or a group of from 0 to 3 atoms other than hydrogen, and is oxy, thio amino, nitro, cyano, and alkyl;

V is an aryl group having 6 annular members comprising 0 to 2 nitrogen atoms and the remainder carbon atoms

U is a substituent group of from 0 to 5 atoms other than hydrogen, and is oxy, thio amino, nitro, cyano, halo, and alkyl; and

u is 0 to 3; and

(4) diazohexahydroquinoline



wherein:

Y is oxygen, sulfur, NH, (alkyl of from 1 to 3 carbon atoms, H) or H₂

R₇ is hydrogen or an organic group of from 1 to 12 carbon atoms and 0 to 4 heteroatoms;

R₈ is hydrogen, an aliphatic group of from 1 to 6 carbon atoms or a heterocycle of from 5 to 6 annular members and from 1 to 2 heteroannular members that are oxygen, nitrogen or sulfur; and

R₉, R₁₀, R₁₃, R₁₄, R₁₅ and R₁₆ are the same or different and are hydrogen or an organic radical of from 1 to 12 carbon atoms or a heterosubstituent of from 1 to 3 heteroatoms;

R₁₁ and R₁₂ are the same or different and are hydrogen or an organic group of from 1 to 12 carbon atoms.

2. A combination according to Claim 1, wherein said polypeptide and said non-peptide organic molecule are complexed at the modulating domain of EPO-R.